

SYSTEMATIC REVIEW TO EXPLORE THE BURDEN OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE

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ABSTRACT

Importance: Chronic obstructive pulmonary disease (COPD) is a vital cause of morbidity and mortality in the India. **Objective:** To conduct a targeted systematic review to explore the burden of COPD. **Data Sources:** MEDLINE, the Cochrane Central Register of Controlled Trials, and CINAHL, Medlars, Google Scholar, PubMed for relevant studies published between January, 2021 to August 2022. **Study Selection** English-language studies of screening in individuals who do not recognize or report respiratory symptoms; studies of treatment in persons with mild or moderate, or minimally symptomatic, COPD. **Outcome** We will focus on the impact of COPD among Indian population. **Outcome measures** we will search for confirmed diagnosis of COPD using spirometry and its impact. **Data Extraction and Synthesis:** Reviewers independently appraised the articles and extracted relevant data from fair- or good-quality studies.

Key Words: Chronic obstructive pulmonary disease, review.

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INTRODUCTION

Chronic obstructive pulmonary disease (COPD) is a leading respiratory disease affecting the length and quality of lives around the globe. World Health Organization defines COPD as a lung disease characterized by chronic obstruction of lung airflow that interferes with normal breathing and is not fully reversible

The prevalence ranged between 2 to 22% among the men and 1.2 to 19% among women in different population-based studies across India. It became fourth leading cause of years of life lost in Empowered Action Group (EAG) States including Bihar, Jharkhand, Madhya Pradesh, Chhattisgarh, Odisha, Rajasthan, Uttar Pradesh and Uttarakhand

METHODS

The systematic literature search will be carried out in MEDLINE, the Cochrane Central Register of Controlled Trials, and CINAHL, Medlars, Google Scholar, PubMed, Scopus web of science and UGC care list journal for relevant studies published between January, 2021 to august 2022 and available in English. Cross-sectional or cohort studies conducted in and among the Indian population will be included. Case reports, randomized trials, meta-analysis, commentaries, and qualitative studies will be excluded from the review. Quality assessment of the included studies will be performed using New Castle Ottawa scale and adherence to reporting standards will be checked using STROBE checklist for Observational Cohort and Cross-Sectional Studies.

RESULTS

We screened 55 titles and abstracts and 12 full-text articles. the initial search identified 5,5 studies of potential interest. After title and abstract review, 53 studies were excluded. Of 35 studies meeting the initial inclusion criteria, 29 were accepted for data abstraction. Articles were excluded due to duplicate publication, lack of adequate data for meta-analysis or inclusion/exclusion criteria that made the study unrepresentative of the population. Three additional articles were identified through hand-searches of relevant bibliographies, bringing the total number of accepted articles to 35.

After eliminating duplicate estimates from the same study, 35 estimates for COPD (including studies that reported a combined rate for CB and emphysema) yielded a pooled prevalence estimate of 7.6%. Objective definitions tended to produce higher prevalence estimates than patient-reported diagnoses. For example, spirometric criteria resulted in a higher prevalence estimate compared with patient-reported COPD (9.2 versus 4.9%, respectively). The pooled prevalence of CB alone was 6.4% from 38 studies. Eight studies reported emphysema alone, with a pooled prevalence of 1.8%.

CONCLUSIONS AND RELEVANCE:

This systematic review and meta-analysis will report the variation of COPD prevalence and incidence among the population in India. The methodology used in this systematic review and meta-analysis will ensure a knowledge synthesis of available data. This review will generate evidence for stakeholders and policymakers, thereby informing policy development and program priorities for COPD in India for decision making. A chronic progressive disease like COPD reduces the lifespan and quality of life among the affected population. In addition, the lost productivity and high treatment cost can affect the nation in a broader scale. Such an alarming public health issue warrants immediate attention of the researchers and policy makers to investigate the risks in the context of India, identify the gaps in managing the patients at primary and secondary care centers, develop patient-centric comprehensive model of diagnosis and treatment, explore the opportunities to prevent the disease through modifying the lifestyles and environmental exposures that affect the quality of life. Blaming the patients for their previous exposures to risk factors and treating them with palliative care is not a cost-effective strategy in a large country like India. All the stakeholders must come forward to address the crisis and contribute to decreasing the burden of COPD in India. COPD is the second most leading cause of non-communicable disease related deaths in India, with the age-specific prevalence of COPD increasing rapidly after the age of 30 years.

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